

“A Good Bell is Heard from Far, a Bad One Still Further”: A Socio-demography of Disclosing Negative Emotions in Social Media

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Abstract

A survey study was conducted to explore whether certain demographic variables such as age, gender and education, and differences in individuals' social media activity, explain differences in disclosing negative emotions in social media. The study found a relationship between age and the tendency to express and share negative emotions. The analysis shows that older users were more moderate in disclosing negative emotions than their younger counterparts. Instead, gender and education were not statistically

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Supporting agency: Tekes – the Finnish Funding Agency for Innovation*

significant factors in explaining social media behaviour. The study also shows that the more active the user is in social media, the more probably he or she also discloses negative emotions. The study underscores the importance of managing of negative social media content, and identifies several avenues for further studies.

Social media is not an alternative to real life, but it is part of it. It provides people not only with new ways of searching and sharing information, but also a context for showing feelings. Studies have shown that emotional messages tend to be diffused more widely than neutral ones (Dan-Xuan & Stieglitz 2013). Sharing emotionally spoken contents – envy-creating status updates, funny pictures, humorous blogs or horrific videos – is an intrinsic part of social media behaviour.

Many studies have argued that companies should be aware of the emotional tone of social media discussions related to their products, services and brands (e.g. Tripp & Grégoire, 2011; Rapp, Beitelspacher, Grewal, & Hughes, 2013). It has been found that mitigating negative sentiment around a company's brands in social media often becomes reality in the balance sheet and on the bottom line (Noble, Noble & Adjei, 2012).

Emotion refers to a feeling state involving thoughts and physiological changes, outward expressions such as facial reactions, gestures or postures; emotion has an object at which it is intuitively or intentionally directed (Brehm, 1999; Cacioppo & Gardner, 1999). Psychological literature typically classifies emotions into two valences:

positive and negative. According to one systematic review of psychological literature, 174 verbal expressions for negative and 140 for positive emotions were found (Laros & Steenkamp, 2005). Based on the literature, Laros and Steenkamp (2005) have provided a hierarchical approach to emotions in consumer behaviour. Basic negative emotions comprise anger, fear, sadness and shame, whereas basic positive emotions include contentment, happiness, love and pride. Each of those basic positive and negative emotions were further divided into subordinate levels. Feeling anger, for example, means that one is angry, frustrated, irritated, unfulfilled, discontented, envious or jealous. When the valence of emotion is connected to its tendency to provoke action, the result is a circumplex model of affect (Russel, 1980). The model consists of two axes that describe their valence and arousal (Fig. 1). Valence indicates whether the affect related to an emotion is positive or negative, and arousal indicates the personal activity induced by that emotion (Russel, 1980; Schweitzer & Garcia, 2010).

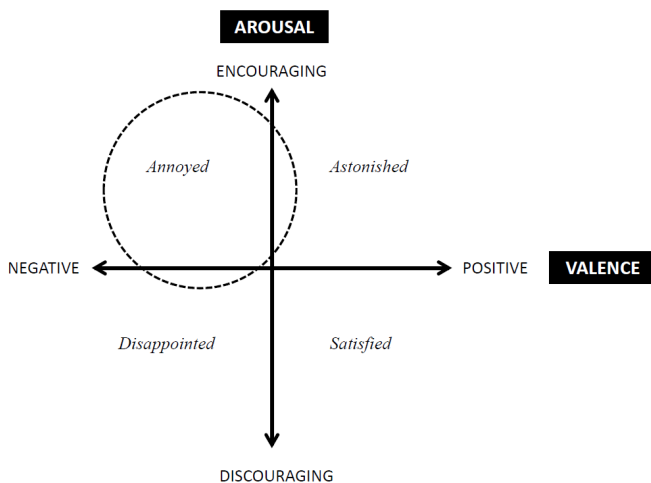


Figure 1. A circumplex model of affect (adapted from Russell 1980).

‘Astonished’ is a positive emotion that encourages action, whereas ‘satisfied’ – although with positive valence – discourages action. ‘Annoyed’ refers to a negative emotion that encourages action, whereas ‘disappointed’ means a negative emotion that discourages action. The focus of this paper is primarily on emotions with negative valence and positive arousal. The paper asks whether some demographic factors or differences in individuals’ social media activity influence 1) people’s tendency to disclose negative emotions in social media, 2) their motivation to disclose negative emotions, and 3) their perceptions on how companies respond to negative feedback they encounter in social media. This paper intends to contribute to the existing research by providing a socio-demography of disclosing negative emotions in social media.

The paper adopts the view that expressing and sharing negative experiences through social media is seen as behaviour resulting from an emotional reaction of dissatisfaction (Bagozzi, 1992). Although negative emotions are typically expressed using a variety of non-linguistic mechanisms, such as shouting, the paper adopts the view that textual communication can be used for disclosing negative emotions (cf. Jansen, Zhang, Sobel, & Chowdury, 2009; Chmiel et al., 2011). Social media posts including negative comments and information are seen as acts which are induced by negative emotions. ‘Disclosing’ negative emotions refers herein to two kinds of behaviour: expressing first-hand negative experiences and sharing negative experiences encountered by others.

Social Media Attracts Negative Emotional Behaviour

It has been suggested that the rise of social media

has brought about the “affective turn” in scholarship (Ratto & Boler, 2014; Hillis, Paasonen, & Petit, 2015; Papacharassi, 2015). The turn in scholarship is needed as the behaviour of individuals has changed. The affective turn in individuals’ behaviour can take various shapes, but common for them is that expressions and connections in the social media age are overwhelmingly characterized by affect. Papacharissi (2015), for example, has shown how affective publics are mobilized and connected, identified, and potentially disconnected through expression of sentiment (Papacharissi, 2015).

Affection needs play an important role in social media behaviour (Schweitzer & Garcia, 2010; Leung, 2013). In general, emotional disclosure is driven by two motivational forces (Lin, Tov, & Qiu, 2014). On the one hand, people express emotions in social media to create and maintain their relatedness to others (Sheldon, Abd, & Hinsch, 2011). On the other hand, emotions are shown for impression management and self-presentation purposes (Papacharissi, 2011).

The picture these studies paint is, however, fairly ambiguous. Some of them argue that users prefer to create, share, read and watch content that reflects *positive* emotions (Fullwood, Sheehan, & Nicholls, 2009; Bae & Lee, 2012), while others that social media satisfy the need to vent *negative* feelings (Leung, 2013; Verhagen, Nauta, & Feldberg, 2013). Emotions are felt on an individual level, but in social media, they can simultaneously be shared *with* and *by* others. Several studies have shown that emotions can be passed through social media platforms (Choudhury, Counts, & Gamon, 2012; Coviello et al., 2014). Collective emotions can display new properties,

which are more (or less) than the aggregation of emotions felt by individuals (Bar-Tal, Halperin, & De Rivera, 2007; Schweitzer & Garcia, 2010). Perhaps it is as Bollen, Gonçalves, Ruan, and Mao (2011) have suggested that “happy users tend to connect to happy users, whereas unhappy users tend to be predominantly connected to unhappy users” (p. 248). This has been empirically proved in a research in which the researchers filtered Facebook users’ news feeds by reducing users’ exposure to their friends’ negative emotional content, resulting in fewer negative posts of their own (Kramer, Guillory, & Hancock, 2014).

The relationship between negative emotions and social media has been addressed from various perspectives. The following will give a short overview of studies which have focused or at least touched upon the question of how negative emotions manifest themselves in social media.

Firstly, *psychologically*-oriented studies have found that negative emotions can be so popular in social media because people who suffer psychosocial problems appreciate the ability to stay connected with others without face-to-face communication. According to these studies disorganised, anxious and lonely people use social media sites as they provide a context for holding relationships at a psychological arm’s distance and modulating negative emotions associated with these problems (Caplan, 2010; Feinstein, Bhatia, Hershenberg, & Davila, 2012; Nitzburg & Farber, 2013). At best, active online processing of one’s emotions is beneficial in “terms of emotional well-being, reductions in self-reported symptoms and improvements in mood” (Hadert & Rodham, 2008, p. 184). However, using social media for mood regulation can paradoxically

lead to worsening of problems. Laghi et al. (2010), for example, have noted that shy people have a tendency to share contents that reflect negative emotions in a way that may be an important contributor to their loneliness.

Secondly, *consumer behaviour* studies (see comprehensive analysis of emotions consumer research in Laros & Steenkamp, 2005) have identified three reasons for negative online word-of-mouth (WOM). Thøgersen, Juhl, & Poulsen (2009) and Verhagen et al. (2013) found that consumers use negative online WOM for drawing attention to their dissatisfaction in order to get a solution or compensation. Consumers also vent for altruistic reasons, particularly to help others. This is the case when people disclose their negative experiences in order to prevent others from suffering a similar incident (Litvin, Goldsmith, & Pana, 2008; Parra-López, Bulchand-Gidumal, Gutiérrez-Tano, & Díaz-Armas, 2011). Adapting Lee, Kim, and Kim (2012), it seems that when people browse consumer created content, they are “likely to expect intrinsic motives of altruism” (p. 1056). Sharing negative experiences online is advantageous because negative information is more diagnostic than positive information when making decisions (Jones Aiken, & Boush, 2009). It means that information about a product that does not work as it should is more diagnostic than information about a product that does work as it should. Finally, consumers vent to help companies to improve their performance. Consumers complain online to assure that the issue is structurally solved (Zaugg & Jäggi, 2006). Although negative in tone, this kind of complaining behaviour can be extremely beneficial to companies. This is because it reflects consumers’ engagement with the organisation.

Thirdly, *sociologically*-inspired studies have focused on cultural and demographic differences in social media behaviour. These studies show that age correlates with emotional behaviour in social media. Przybylski, Murayama, DeHaan, and Gladwell (2013), for example, found that compared to older people, the young feel fear of missing out – a pervasive apprehension that others might be having rewarding experiences from which one is absent. In order to avoid missing out, young people may have a compulsive need to be continually connected with what others are doing. Young people who tend toward disorganised and anxious attachment styles have also a strong tendency to include a lot of words referring to negative emotions (Nitzburg & Farber, 2013). This could be an indicator that young people experience emotions associated with puberty (Pfeil, Arjan, & Zaphiris, 2009). A bit surprisingly, Fullwood et al. (2009) discovered that bloggers over 50 were more likely to use the blog as an emotional outlet with a negative tone. There are also gender differences in negative behaviour in social media, albeit those differences were not as evident as in the case of age. Fullwood et al. (2009), for example, did not find any significant gender differences in emotional behaviour in blogging. However, according to one study, which focused on gender differences in the use of social networking in workplace context, negative emotions were more likely for women than men (Shen Lee, Cheung, & Chen, 2010). Studies have also shown cultural differences in emotional behaviour in social media. Koh, Hu, and Clemons (2010) found consumers in individualistic countries tend to engage in negative online WOM more typically than consumers in collective countries.

Fourthly, studies which have focused on the emotional tone of *political discussion* in social media implicate that those discussions are prone to polarise in two opposite directions and end up in contradiction. It seems that negative interactions in political issues are different from positive interactions. According to one sentiment analysis of the affective nature of online political comments, positive comments exceeded negative ones, but that positive comments decreased over time while negative comments increased over time (Robertson, Douglas, Maruyama, & Sermaan, 2013). One possible explanation is provided by Sobkowicz & Sobkowicz (2012), who have argued that political online discussion turns negative due to the need to attract attention. To grab attention in social media, it seems that users are obliged to rely on expressing emotional and provocative opinions. Once negative sentiment takes over it is difficult to stop; negative statements tend to follow negative statements (Chmiel et al., 2011).

Fifthly, some studies have addressed social media sites dedicated to allowing people to vent. *Rant-sites*, as they are called, provide people a forum to rant, for example, about firms and their products and services. Rant-sites particularly attract people who feel anger. Martin, Coyier, van Sistine, and Schroeder (2013) have studied how anger is expressed in these sites. As a main finding they suggested that “reading and writing online rants are likely unhealthy practices as those who do them often are angrier and have more maladaptive expressions than others” (p. 121). As peculiar it may sound, some individuals energise themselves by sharing negative and detrimental information. Noble et al. (2012) have labelled these individual as trolls. A troll is an individual who shares

“inflammatory, extraneous or off-topic messages [...] in social media, with the primary intent of provoking readers into an emotional response or of otherwise disrupting normal on-topic discussion” (p. 477). Contrary to a dissatisfied customer, it is in the troll’s deliberate intention to damage an organisation or a community. Studies also show that if users are allowed to post comments anonymously, it lowers the risk of losing face, and therefore increases the odds of showing negativity such as anger and disgust (Derks, Bos, & Grumbkow, 2007; Yun & Park, 2011).

Sixthly, there is a branch of research that has explored factors related to *contagion* of social media messages. In general, these studies have found that emotions affect the virality of messages. Although the studies conclude that the likelihood that positive emotions are spread wider than negative emotions, two important exceptions in emotional dynamics have been found. First, individuals can be categorized into two groups based on their susceptibility (highly or scarcely) to emotional contagion. Ferrara and Yang (2015) measured the emotional valence of content the users were exposed to before posting their own tweets. The research showed that users scarcely susceptible to emotional contagion adopted negative emotions much more frequently compared to users who were highly susceptible to emotional contagion. The other exception arises from the nature of users’ personal social media networks. Lin et al. (2014) found that the density of users’ networks correlated with the likelihood of disclosing positive and negative emotional content in social media. The denser the network, the more emotional it becomes. The network’s density increases both positive and negative emotional disclosures; however, it is worth noting that

sharing negative emotions can be more useful because it can improve the sense of intimacy by reinforcing the discloser's trust in others and eliciting social support (Graham, Huang, Clark, & Helgeson, 2008). The other side of the same coin is that frequent display of negative emotion can be interpreted as the individual's incapability of self-control and emotion regulation (Gross, Richards, & John, 2006), which gives a reason to think that users with large social media networks are expected to disclose more positive and less negative emotion. The findings of Ferrara and Yang (2015), Lin et al. (2014), and Kramer et al. (2014) imply that negative emotional contagion can occur among social media users.

As this paper focuses on emotions that have negative valence and positive arousal, the psychological approach falls out of the paper's scope. Positive arousal manifests itself as either expressing one's own or sharing others' negative experiences in social media. Ranting sites are left out, in turn, because they represent, albeit interesting, extremely negative emotions and marginalised behaviour. The majority of social media users do not commit cyber trolling or bullying. The empirical data consists of questionnaire responses, which does not allow for analysis of the contagion of negative emotions among social media users. By concentrating on moderate ways of expressing disagreements in social media, and exploiting sociological and consumer behaviour approaches, this paper aims to provide a socio-demography of disclosing negative emotions in social media.

Methods

Many studies have shown how machine learning

techniques, automated content analysis and social network analytics (e.g. Bae & Lee, 2012; Chmiel et al., 2011; Sumiala, Tikka, Huhtamäki, & Valaskivi, 2016) enable to unveil not only pleasant, but also disconcerting details of social media users' behaviour. Kramer's et al. (2014) experimental study on emotional contagion induced concern of content manipulation and questioned the notion of informed consent (Jouhki, Lauk, Penttinen, Sormanen, & Uskali, 2016).

This study does not include any experiments or manipulations, nor does it exploit any content analysis with or without the help of machines. Research subjects' privacy was not threatened as questionnaire responses were anonymous. This study focuses on the socio-demography of disclosing negative emotions in social media. Based on the categorization developed by Östman and Turtiainen (2016), this study can be described as aiming to understand behaviour in the digital context.

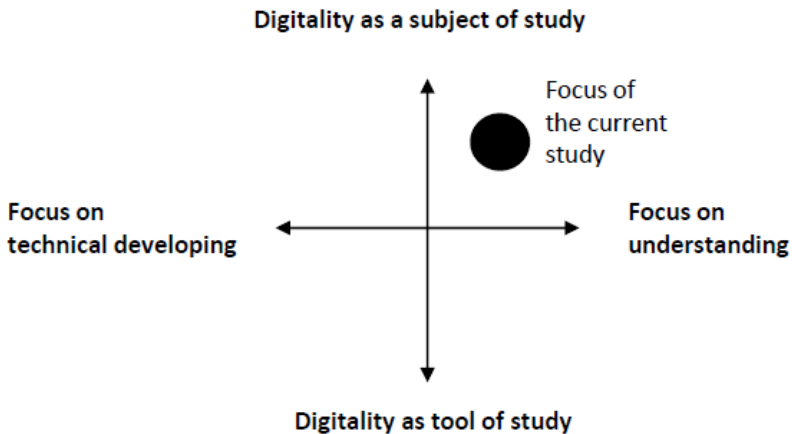


Figure 2. Positioning the current study in the axis of digitality and humanities (adapted from Östman & Turtiainen, 2016).

Data were collected by both an online survey and a paper-based survey in March and April 2015. The population of the survey consisted of Finnish citizens. The survey was first pretested in order to ensure its functionality, after which some minor changes were made to the wording. A total of 297 responses were gathered by the paper-based survey and 425 responses by the online survey. After purification of missing values and inconsistent information, 704 cases remained for further analysis. The data were analysed by using SPSS 21.0 version. To test whether there was a difference between those who responded to the online or paper-based survey, the means of the outcome statements between these groups were compared. According to an independent t-test, the means of one of twelve outcome statements (“I comment societal issues in social media in a negative tone”) differed somewhat between those who responded to the paper-based survey compared to those who responded to the online survey (t-test value of $p .034$). The means of respondents to the aforementioned statements were in the paper-based survey 2.28 and in the online survey 2.04. The means of the other eleven outcome statements did not differ on a statistically significant level between the groups. Information on the demographic profile of the sample is provided in Table 1.

The use of social media was measured by asking the participants how often they use (daily, weekly, monthly, no-use) various social media sites (e.g. Facebook, Twitter, LinkedIn, Google+, YouTube, Pinterest, Instagram, Flickr, Vine) and how they use them (create and post content; update status; comment on others’ content and contribute to forums; maintain social media profiles and visit social media sites; bookmark content; read, listen

Table 1
Demographic profile of the sample

Variable	Categories	N	%
Age (Mean=32; Median=27)	Up to 25	329	46.7
	25–47	275	39.1
	48 and over	100	14.2
Gender	Female	308	43.7
	Male	396	56.3
Education	Primary	37	5.2
	Secondary	464	65.9
	University	203	28.9
		704	100

or watch content; none of the aforementioned. The users' typology is loosely based on the work of Bernoff and Li (2008) and Li and Bernoff (2011). Combining the use frequency and the purpose of use the following categories were formed: 1) *visitors* (6%), 2) *observers* (47.8%), 3) *participants* (22.3%) and 4) *creators* (23.9%). A visitor visits occasionally one or a couple of social media sites. His/her main activity is reading and watching content created by others. A visitor does not comment on the content. An observer visits various social media sites on a weekly or at least monthly basis. His/her main activity is searching like-minded virtual communities in order to feel connected to these communities. An observer occasionally comments on content such as others' status updates. A participant visits several social media sites on a daily or at least weekly basis. His/her main activity is searching like-minded virtual communities in order to take part in the discussion of

these communities. An observer regularly comments on content and maintains several profiles on several social media sites. A creator is continuously connected to social media. His/her main activity is creating all kinds of content regularly (e.g. blogs, pictures, videos) to be commented by others. A creator maintains several profiles on several social media sites. The social media usage profile of the sample is provided in the Table 2.

The questionnaire included twelve statements based on the literature. The statements were grouped in three categories. The first category “the tendency to disclose in social media” included statements related to individuals’ own or their peers’ negative experiences. The statements were based on several studies that identified the tendency of individuals to express and share negative experiences through social media (Lee & Cude, 2012). The second category “the motivation to disclose negative emotions in social media” was formed on the basis of the studies that identified specific motivational factors for propagating negative experiences (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Thøgersen et al., 2009; Verhagen et al., 2012). The category also included one statement related to the anonymity of communication (cf. Lapidot-Lefler & Barak, 2012). The third category “the perception on companies’ openness to negative feedback” and its four statements were included in the questionnaire because many studies have stressed out the importance of handling negative feedback (Noble et al., 2012). Customer loyalty can be improved by excellent complaint management (Hutter, Hautz, Dennhardt, & Füller, 2013). All the statements were measured on a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”. The twelve

Table 2
Social Media Users' Demographic Profiles

User type	Proportion of respon- dents	Gender Female/ Male (%)	Age group < 25 / 26–47 / 48 < (%)	Education Prim. / Sec. / Uni. (%)
Visitor (100)	60%	35.9 / 64.1 (100)	41.0 / 46.0 / 12.8 (100)	0.0 / 79.5 / 20.5
Observer (100)	47.8%	39.0 / 61.0 (100)	49.0 / 36.5 / 14.5 (100)	3.9 / 67.7 / 28.4
Participa- tor (100)	22.3%	52.4 / 47.6 (100)	45.5 / 42.8 / 11.7 (100)	3.4 / 69.0 / 27.6
Creator (100)	23.9%	44.5 / 55.5 (100)	45.8 / 40.0 / 14.2 (100)	3.2 / 64.5 / 32.3

statements are listed in Table 3.

The Pearson two-tailed correlation test indicated a statistically significant correlation between the statements 1–4 (correlation value ranged from .520 to .725). The correlation values between statements 5–8 ranged from .285 to .628 and between statements 9–12, the values ranged from .060 to .270, respectively. Due to low correlation between some statements the analysis was based on single statements.

Results

As seen in Fig. 3, people are not willing to disclose negative emotions in social media. A fairly clear majority of the respondents chose either the alternative “slightly disagree” or “strongly disagree” to the statements (1–4), which measured individuals’ likeliness to express or share negative emotions regarding product/customer experience or societal issues (54.1% in statement 1, 73.4% in state-

Table 3*Twelve statements in the questionnaire****Tendency to disclose negative emotions in social media***

- (1) I report in social media about negative products or customer experiences I've encountered.
- (2) I share in social media forward information about negative products or customer experiences my friends have encountered.
- (3) I comment societal issues in social media in a negative tone.
- (4) I share in social media societal issues which have been commented in a negative tone by others.

Motivation to disclose negative emotions in social media

- (5) I express and share negative experiences I've encountered because I feel it helps me.
- (6) I express and share negative experiences I've encountered in order to warn my friends.
- (7) I express and share negative experiences I've encountered in order to help companies to improve their performance.
- (8) Ability to anonymous communication has increased me to express and share negative experiences.

Perceptions on companies' openness to negative feedback

- (9) I think companies respond quickly negative feedback they receive in social media.
- (10) Companies should monitor actively social media discussions related to their products and services.
- (11) I think the ways companies respond to negative experiences they encounter in social media affect the attitudes people relate to companies.
- (12) I avoid products, services and companies about which I've read negative ratings in social media.

ment 2, 74.4% in statement 3 and 80.8% in statement 4). According to the survey, people do not like to vent in social media in order to feel relief as 57.1% of respondents disagreed slightly or strongly with the statement "I express and share negative experiences I've encountered because I feel it helps me." Instead, they express and share negative experiences to warn their friends or help companies to improve their performance (63.1% agreed slightly or strongly with the statement "I express and share negative experiences I've encountered in order to warn my friends", 52.7%

agreed slightly or strongly with the statement “I express and share negative experiences I’ve encountered in order to help companies to improve their performance”). A fairly clear majority (70.0%) of the respondents thought that anonymity has not increased their likeliness to disclose negative emotions. Similarly, a clear majority agreed with the statements “Companies should monitor actively social media discussions related to their products and services” (92.3%) and “I think the ways companies respond to negative experiences they encounter in social media affect the attitudes people relate to companies” (91.6%). In the light of this survey, it is worthwhile for companies to handle negative feedback quickly and properly as 79.1% of the respondents agreed slightly or strongly with the statement “I avoid products, services and companies about which I’ve read negative ratings in social media.”

It is worth noting that a clear majority of the respondents reported to strongly or slightly agree with statements 9–12, which measured the respondents’ opinions about social media monitoring conducted by companies. In order to find out how demographic variables affect the inclination of people to negative emotions in social media, a cross-tabulation was conducted.

Do Demographic Variables Affect the Disclosing of Negative Emotions in Social Media?

The results of cross tabulating the tendency of disclosing negative emotions, motivation to disclose negative emotions and respondents’ perceptions of companies’ openness to negative feedback against demographic variables are shown in Table 4.

The cross-tabulation shows that gender and educa-

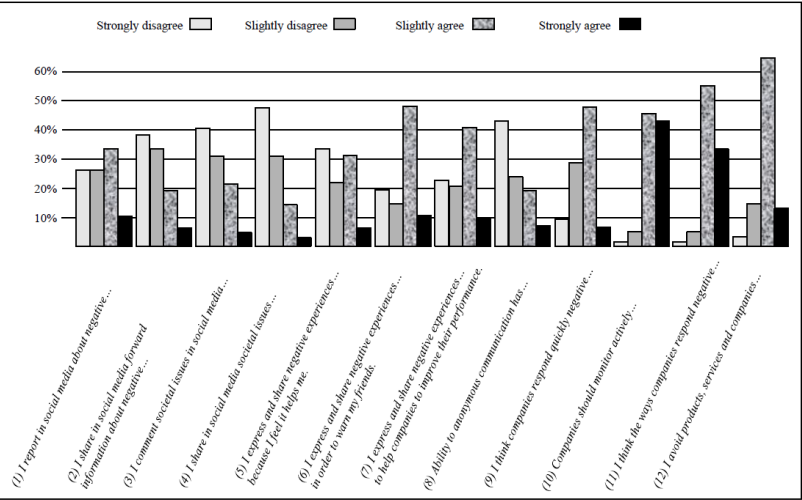


Figure 3. Distribution of respondents’ responses to the state-

tion do not explain either tendency (the lowest $p=.054$) or motivation to disclose negative experiences in social media (the lowest $p=.213$). The same also holds true in the respondents’ perceptions of companies’ openness to negative feedback (the lowest p value .093). Instead the cross tabulation indicated a statistical relationship between age and tendency to disclose negative emotions, although not in all statements (statements 1–5 and 8–9 p values $< .05$).

Table 5 summarises distribution of responses to statements 1–5 and 8–9 by three age groups. The oldest age group (48 and over) seems to have more ability to refrain from disclosing negative emotions in social media when compared to age groups up to 25 and 26-47. The age group “up to 25” discloses negative emotions more often when their root cause is some negative experience they or their friends have encountered. People belonging to the age group “26-47” are more likely to disclose negative emotions that relate to societal issues than their younger and

Table 4A

Demographic Variables and Disclosing Negative Emotion in Social Media

Age	X^2 value	p value	df
<i>Tendency to disclose negative emotions in social media</i>			
Statement 1	17.067	.009**	6
Statement 2	12.894	.045*	6
Statement 3	24.131	.000***	6
Statement 4	31.841	.000***	6
<i>Motivation to disclose negative emotions in social media</i>			
Statement 5	24.774	.000***	6
Statement 6	11.750	.068	6
Statement 7	7.226	.300	6
Statement 8	13.475	.036*	6
<i>Perceptions on companies' openness to negative feedback</i>			
Statement 9	14.257	.027*	6
Statement 10	6.318	.388	6
Statement 11	8.914	.178	6
Statement 12	6.902	.330	6

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

older counterparts. The cross-tabulation also shows that people belonging to the age group “48 and over” are not motivated to disclose negative emotions because they think it helps them. Anonymity as a driver to vent is significantly more important in the age groups “up to 25” and “26–47” than in the oldest one. Finally, the age group “up to 25” has a more positive opinion about companies’ responsiveness to negative feedback than their older counterparts.

Table 4B

Demographic Variables and Disclosing Negative Emotion in Social Media

Gender	X^2 value	p value	df
<i>Tendency to disclose negative emotions in social media</i>			
Statement 1	.332	.954	3
Statement 2	7.786	.054	3
Statement 3	5.346	.148	3
Statement 4	.839	.840	3
<i>Motivation to disclose negative emotions in social media</i>			
Statement 5	1.113	.774	3
Statement 6	1.586	.663	3
Statement 7	3.914	.271	3
Statement 8	2.370	.499	3
<i>Perceptions on companies' openness to negative feedback</i>			
Statement 9	5.943	.114	3
Statement 10	3.254	.354	3
Statement 11	3.773	.287	3
Statement 12	4.730	.193	3

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

Although gender in total did not explain individuals' social media behaviour related to disclosing negative emotions, the elaboration of cross-tabulation however, revealed some statistically significant differences between the sexes in different age groups related to the statements 1–5 and 8. Fig. 4 shows that females were more likely than males to express negative emotions (statement 1, $X^2=15.73$; $p=.018^*$; $df=6$) they have encountered in ages

Table 4C

Demographic Variables and Disclosing Negative Emotion in Social Media

Education	X^2 value	p value	df
<i>Tendency to disclose negative emotions in social media</i>			
Statement 1	7.710	.311	6
Statement 2	9.301	.157	6
Statement 3	6.259	.395	6
Statement 4	3.053	.802	6
<i>Motivation to disclose negative emotions in social media</i>			
Statement 5	2.938	.817	6
Statement 6	2.538	.864	6
Statement 7	7.153	.307	6
Statement 8	8.355	.213	6
<i>Perceptions on companies' openness to negative feedback</i>			
Statement 9	3.092	.797	6
Statement 10	13.441	.053	6
Statement 11	12.457	.053	6
Statement 12	7.893	.246	6

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$*

below 47, whereas males reported to express negative emotions significantly more often than females in the age group 48 and over. Comparing to females, males in the age group 48 and over showed a higher tendency to forward negative emotions encountered by their friends (statement 2, $X^2=17.123$; $p=.009^{**}$).

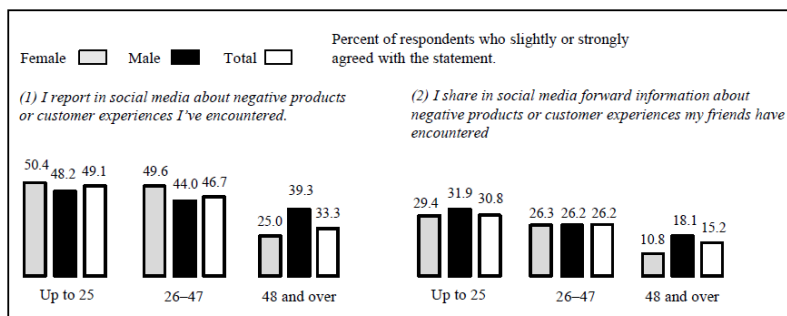


Figure 4. Expressing and sharing negative product or customer experiences against age and gender

Fig. 5 shows that compared to males, females are more likely to disclose negative comments about societal issues in ages below 47 (statement 3, $X^2=17.518$; $p=.008^{**}$, $fp=6$). Males in age group 48 and over reported to share forward negative comments about societal issues than females, while in the age group 26-47 females were more active in sharing negative comments on societal issues than males (statement 4, $X^2=28.575$; $p=.000$; $fp=6$).

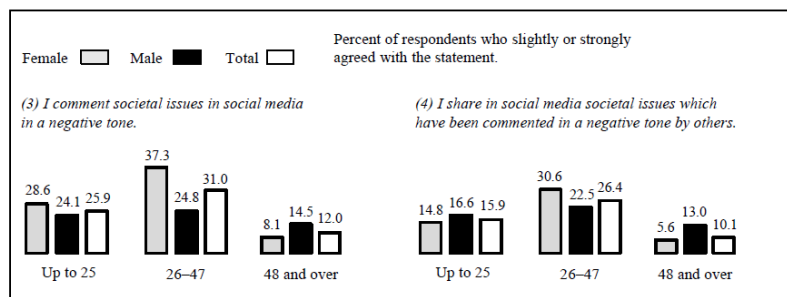


Figure 5. Commenting and sharing societal issues in negative tone against age and gender

Fig. 6. shows a statistically significant relationship between the sexes in different age groups were also found when the respondents assessed their motivation to disclose

Table 5

*Differences in Responses to Statements against Age Groups
[Slightly or strongly agree with statement (%)]*

	<u>Age</u>		
	Up to 25	26-47	48 and over
1. I report in social media about negative product or customer experiences I've encountered.	49.1	46.7	33.3
2. I share in social media forward information about negative product or customer experiences my friends have encountered.	30.8	26.2	15.2
3. I comment societal issues in social media in negative tone.	25.9	31.0	12.0
4. I share in social media societal issues which have been commented in negative tone by others.	15.9	26.4	10.0
5. I express and share negative experiences I've encountered because I feel it helps me.	43.8	42.6	18.0
8. Ability to anonymous communication has increased me to express and share negative experiences.	34.4	30.8	13.0
9. I think companies respond quickly negative feedback they receive in social media.	64.4	52.7	50.0

negative emotions. Comparing to females, males in age groups “up to 25” and “48 and over” showed a higher tendency to disclose negative emotions in order to warn their friends (statement 5, $X^2=15.426$; $p=.017^*$; $fp=6$). The ability to disclose negative emotions inspired more females

than males in the age groups “up to 25” and “26–47” (statement 8, $X^2=13.456$; $p=.036$; $fp=6$). In the age group “48 and over” male were significantly more likely to vent anonymously than females, 16.2 % and 5.9%, respectively.

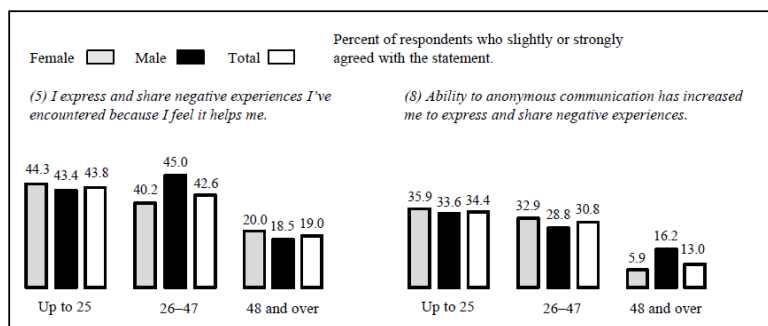


Figure 6. Motivation to express and share negative experiences against age and gender

Do Differences in Users' Activity Affect the Disclosing of Negative Emotions in Social Media?

The results of cross-tabulating the tendency of expressing and sharing negative experiences, motivation to share and express negative experiences and respondents' perceptions of companies' openness to negative feedback against social media user profiles are shown in Table 6.

Fig. 7 shows the cross-tabulation of social media usage profiles and the tendency of expressing and sharing negative experiences, the motivation to share and express negative experiences and respondents' perceptions of companies' openness to negative feedback.

The cross-tabulation shows that there was a statistically significant relationship between the social media usage profile and the tendency to express and share nega-

tive experiences and the motivation to express and share negative experiences in social media (p values were $< .05$ in every four statements). The analysis clearly shows that the more active the user is, the more motivated he/she is and the more probably he/she also reports negative experiences in social media. Creators agreed strongly or slightly even four times more with statements 1–4 than visitors did.

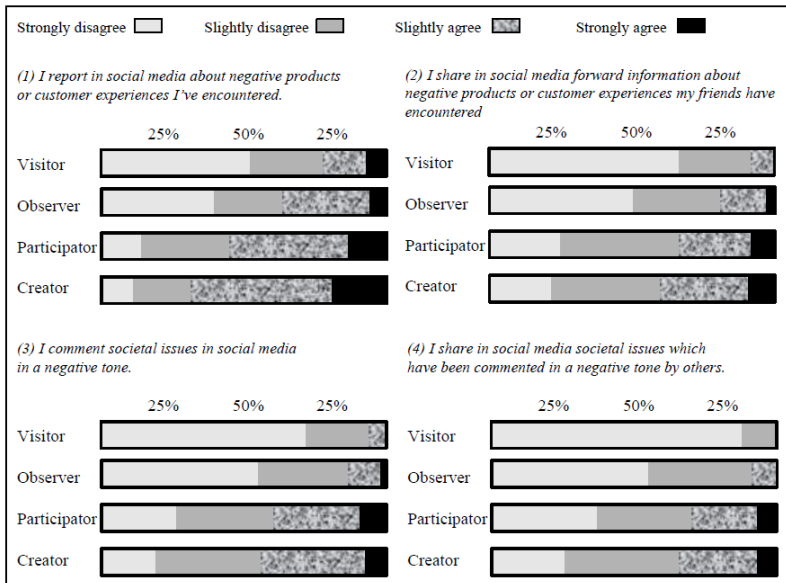


Figure 7. User type and the tendency to express and share negative experiences.

The cross-tabulation also shows that there was a statistically significant relationship between the social media usage profile and the motivation to express and share negative experiences and the motivation to express and share negative experiences in social media (p values ranged from .007 to .039). The analysis shows that active users identified more reasons to vent in social media. Compared

Table 6*User Type and Disclosing Negative Emotions in Social Media*

User type	X^2 value	p value	df
<i>Tendency to disclose negative emotions in social media</i>			
Statement 1	75.963	.000***	9
Statement 2	58.683	.000***	9
Statement 3	76.803	.000***	9
Statement 4	66.935	.000***	9
<i>Motivation to disclose negative emotions in social media</i>			
Statement 5	17.833	.037*	9
Statement 6	22.541	.007**	9
Statement 7	44.449	.000***	9
Statement 8	17.690	.039*	9
<i>Perceptions on companies' openness to negative feedback</i>			
Statement 9	15.713	.073	9
Statement 10	17.433	.042*	9
Statement 11	7.477	.588	9
Statement 12	33.015	.000***	9

*Note: * $p < .05$; ** $p < .01$; *** $p < .001$; In statement 11, the Chi-Square Test showed that the minimum expected count was less than 1, which indicated that the results of the cross-tabulation were unreliable.*

to visitors, creators agreed strongly or slightly three times more with statements 5–8.

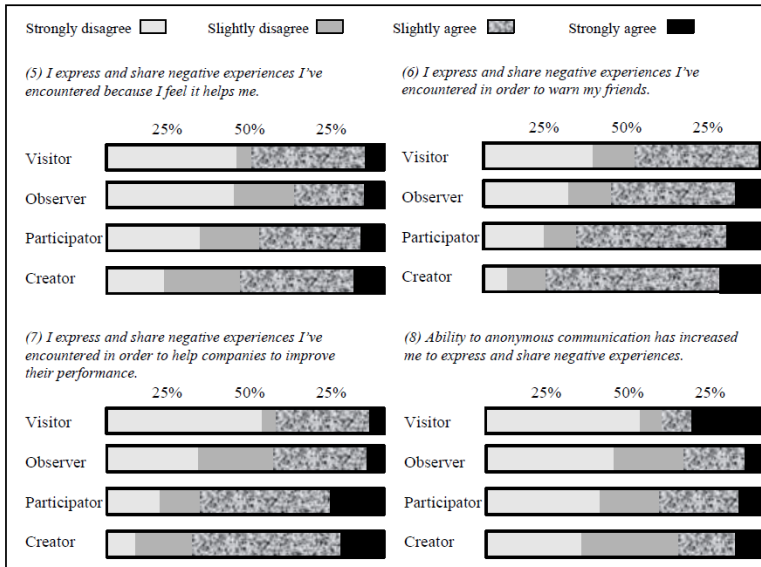


Figure 8. User type and the motivation to express and share negative experiences.

In the case of perceptions of companies' openness to negative feedback there was a statistically significant relationship only between the social media usage profile and the statement which measured users' readiness to avoid products, services or companies about which they have read negative ratings in social media (p value .001).

Discussion and Conclusion

The purpose of the study was to provide a socio-demography of disclosing negative emotions in social media. Many respondents admitted to commit expressing and sharing negative experiences they have encountered. The study shows that education and gender do not explain the negativity of people in social media. No statistically significant relationship was found between gender and edu-

cation. This applies also to the tendency or motivation to disclose negative emotions and individuals' perceptions on companies' responsiveness to negative feedback. The findings related to the gender aspect were a bit surprising. This is because studies have suggested that women show emotions in social media differently than men (e.g. Shen et al., 2010). Age, in turn, was found as a factor that influences individuals' tendency to disclose negative emotions. A bit unsurprisingly, younger people were found more critical than their older counterparts. Older respondents were significantly less prone to vent in order to ease their bad feelings. Similarly, compared to younger respondents, the older ones reported significantly less that anonymity increases the odds of expressing or sharing negative contents. Age, however, did not have a significant effect on individuals' perceptions on companies' responsiveness to negative feedback. All in all, the study confirms the ambiguous findings of previous research.

Although many respondents admitted they have expressed and shared negative experiences they have encountered, it is worth noting that the majority of respondents reported that they *do not* prefer to disclose negative emotions in social media (Fig. 3). From this, however, one cannot conclude that the possibility to publish negative content in social media is not a threat for companies. Quite contrary, this paper shows that individuals' social media activity affects statistically significantly their tendency and motivation to disclose negative emotions, as well as their perceptions on companies' responsiveness to negative feedback. Keeping in mind the rapid growth of various social media sites (e.g. Twitter, Vine, Instagram, Pinterest) and the growth of social media users (e.g. the

number of Facebook users has grown from zero to over one billion users in 10 years), it is reasonable to expect that the share of those users who fulfil the criteria of being considered as ‘creators’ and ‘participators’ will also grow. When the rise of more active social media users is combined with the findings of the paper – i.e. the more active the user is, the more prone he/she also is to express and share negative emotions – it is fairly clear that companies should develop procedures to handle negative content and emotions they receive through social media.

Even though the study has not touched upon the question of users’ *influence on others*, it can be hypothesised that active users’ negativity spreads effectively. In fact, active users may become opinion leaders, who by the definition are individuals who have abilities to influence others’ opinions (cf. Flynn et al., 1994; Watts & Dodds, 2007). At worst, active users may launch viral events that direct the attention of a broad audience to selected negative facts or perceptions that might otherwise be left unnoticed (cf. Hemsley & Mason, 2013). The likelihood of spreading a negative event is not remote. The reason is that negative information is more *contagious* than positive information. Several studies have found the negativity bias in human perception and judgment. The negativity bias suggests that people place more weight on negative than positive information. One presumable reason for that is that negative information is more diagnostic than positive (e.g. Ahluwalia, Burnkrant, & Unnava, 2000; Jones et al., 2009). What social media has changed is that it provides people more power to express information that describes that something emotionally negative has happened. The locus of power has shifted from the organisa-

tion to the customers (Berthon, Pitt, Plangger, & Shapiro 2012). Due to the contagiousness of negative information, it is that when something bad happens it can escalate quickly and unexpectedly. Perhaps it is that avoiding negative electronic word-of-mouth becomes more important than spreading positive online WOM.

The study shows that people accept that companies are trying to monitor social media discussions and content inspired by negative experiences (Fig. 3). In this respect, the study implies the importance of practical management of negative social media content. Despite the fact that companies may find themselves bombarded by negative content, it should be remembered that social media itself provides them also with new possibilities for defending themselves against negativity. As for indirect implications, this study speaks for *sentiment analysis*. Sentiment analysis refers to computational study of sentiments, affects and emotions expressed in social media texts (Bae & Lee, 2012; Chmiel et al., 2011). Although a technologically and linguistically challenging method, sentiment analysis is based on the very simple idea – i.e. texts are subjective and may express some personal feeling, view, emotion, or belief. A completely automated solution is nowhere in sight but, however, it is expected that sentiment analysis provides a useful tool for organisations to improve their ability to detect symptoms of collective negative emotions – before they become an issue. The study suggests that analysing negative sentiments in social media is particularly important in businesses that are trying to draw more young (and perhaps angry) than older (and perhaps convivial) customers. Individual negative emotions – dissatisfaction, frustration, disappointment, angry etc. – should be

taken seriously because in the social media age, these emotions can be transformed into collective ones (cf. Chmiel et al., 2011). However, it is worth noting that with the rising calculation power by computers, the ethical issues has become extremely critical. Big data has shown that what can be done is not necessarily what should be done (e.g. Lauk & Sormanen, 2016).

The present study is not without limitations. Firstly, the population of the survey consisted only of Finnish citizens. Studies focused on cultural issues in social media behaviour have shown that there are differences, for example, in engaging with social networking sites (e.g. Chu & Choi, 2014) and in online reviewing of products (e.g. Koh et al., 2010). One useful avenue for future research, therefore, would be empirical studies focusing on cultural idiosyncrasies of disclosing negative emotions. Secondly, the current survey did not study possible differences in disclosing negative emotions in various social media sites. It would be interesting to look at whether negative behaviour depends on the social media site. Do discussion forums that allow anonymous comments, for example, feed more venting than social networking sites in which users are obliged to expose their identities? Similarly, it would be useful to study whether mobile devices provoke expressing and sharing negative experiences. This is a very topical issue as mobile use of social media is rising rapidly (comScore 2013 & 2014). Intuitively thinking, it can be hypothesised that the easiness of taking photos by smart phone tempts to disclose emotionally motivated content, also negative. Thirdly, dividing emotions into positive and negative is rather broad categorization. Studies have identified hundreds of verbal expressions for emotions

(Laros & Steenkamp, 2005). Obviously there are more words for emotions than emotional states; however, it would be useful to study how various negative emotions are disclosed in social media and with what consequences. Martinez and Zeelenberg (2015), for example, have found that although regret and disappointment are both negative emotional states they influence our behaviour differently. Regret makes us feeling personally at fault for the bad outcome, whereas disappointment is the result of a situation that is not in our direct control. Based on these differences it is possible to hypothesize that individuals who feel regret are less susceptible to disclose their feelings compared to those who are “just” disappointed. Presumably, the difference between regret and disappointment is not unique. Fourthly, Papacharissi (2015) and many others have made a distinction between emotion and affect. By affect they mean the intensity with which we experience emotion. More precisely Papacharissi (2016) defines affect as “the drive or sense of movement experienced before we have cognitively identified a reaction and labelled it as a particular emotion” (p. 316). Based on this distinction, it would be intriguing to study how, if at all, the negative affective attachments are deployed in creating digital communities. Fifthly, we need case studies which explore and analyse deeply the development and evolution of single negative viral events. Hemsley and Mason (2013), have provided a useful anatomy of a viral event; however, they have not focused exclusively on *negative* viral events. Inspired by the diagnosticity of negative information, one might expect that the anatomy of negative viral events differs from positive ones. Sixthly, despite the rapid growth of social media usage, it is however im-

portant to notice that social media is still a fairly new phenomenon (the leading site, Facebook was founded in 2004). This fact makes it difficult to evaluate the consequences of social media. Due to the lack of experience, we can hypothesise, for example, that the young people of the day become milder when they get older in a similar way that has been found in political participation studies. On the other hand, some may argue that social media is a kind of generational experience of the young people of the day – an experience which influences the social media behaviour of young people even then when they get older. Presumably, in the near future, it is possible and also necessary to conduct a sociologically oriented longitudinal research.

References

- Ahluwalia, R., Burnkrant, R. E., & Unnava, H. R. (2000). Consumer response to negative publicity: The moderating role of commitment. *Journal of Marketing Research*, 37, 203–214.
- Bae, Y. & Lee, H. (2012). Sentiment analysis of Twitter audiences: Measuring the positive or negative influence of popular Twitterers. *Journal of the American Society for Information Science Technology*, 63(12), 2521–2535.
- Bagozzi, R. P. (1992). The self-regulation of attitudes, intentions, and behaviour. *Social Psychology Quarterly*, 55(2), 178–204.
- Bar-Tal, D., Halperin, E., & De Rivera, J. (2007). Collective emotions in conflict situations: Societal implications. *Journal of Social Issues*, 63(2), 441–460.
- Bernoff, J. & Li, S. (2008). Harnessing the power of the oh-so-social web. *MIT Sloan Management Review*, 49(3), 36–42.
- Berthon, P. R., Pitt, L. F., Plangger, K. & Shapiro, D. (2012). Marketing meets Web 2.0, social media, and creative

- consumers: Implications for international marketing strategy. *Business Horizons*, 55(3), 261–271.
- Bollen, J., Gonçalves, B., Ruan, G. & Mao, H. (2011). Happiness is assortative in online social networks. *Artificial Life*, 17(3), 237–251.
- Brehm, J. W. (1999). The intensity of emotion. *Personality and Social Psychology Review*, 3(1), 2–22.
- Cacioppo, J. T. & Gardner, W. L. (1999). Emotion. *Annual Review of Psychology*, 50, 191–214.
- Caplan, S. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in Human Behavior*, 26(5), 1089–1097.
- Chmiel, A., Sienkiewicz, J., Thelwall, M., Paltoglou, G., Buckley, K., Kappas, A. & Holyst, J. A. (2011). Collective Emotions Online and Their Influence on Community Life. *PLoS ONE*, 6(7), 1–8.
- Choudhury, M. D., Counts, S. & Gamon, M. (2012). Not all moods are equal! Exploring human emotional states in social media. *International AAAI Conference on Weblogs and Social Media*, 66–73.
- Chu, S-C. & Choi, S. M. (2014). Electronic word-of-mouth in social networking sites: A cross-cultural study of the United States and China. *Journal of Global Marketing*, 24, 263–281.
- comScore. (2013) *Europe Digital Future in Focus*. Retrieved from http://www.ris.org/uploadi/editor/13646247392013_europe_digital_future_in_focus.pdf
- comScore. (2014) *U.S. Digital Future in Focus 2014*. Retrieved from <http://www.tekpro.cl/archivos/US-Digital-Future-In-Focus-2014-FINAL.pdf>
- Coviello, L., Sohn, Y., Kramer, A. D., Marlow, C., Franceschetti, M., Christakis, N. A. & Fowler, J. H. (2014). Detecting emotional contagion in massive social networks. *PloS ONE*, 9(3), 1–6.
- Dang-Xuan, L. & Stieglitz, S. (2013). Emotions and information

- diffusion in social media — Sentiment of microblogs and sharing behavior. *Journal of Information Systems*, 29(4), 217–247.
- Derks, D., Bos, A. E.R. & Grumbkow, J. von. (2007). Emoticons and social interaction on the Internet: the importance of social context. *Computers in Human Behavior*, 23(1), 842–849.
- Feinstein, B. A., Bhatia, V., Hershenberg, R., & Davila, J. (2012). Another venue for problematic interpersonal behavior: The effects of depressive and anxious symptoms on social networking experiences. *Journal of Social & Clinical Psychology*, 31(4), 356–382.
- Ferrara, E. & Yang, Z. (2015). Measuring emotional contagion in social media. *PloS ONE*, 10(11), 1–9.
- Flynn, L. R., Goldsmith, R. E. & Eastman, J. K. (1994). The king and summers opinion leadership scale: Revision and refinement. *Journal of Business Research*, 31, 55–64.
- Fullwood, C., Sheehan, N., & Nicholls, W. (2009). Blog function revisited: A content analysis of MySpace blogs. *CyberPsychology & Behavior*, 12(6), 685–689.
- Graham, S. M., Huang, J. Y., Clark, M. S. & Helgeson, V. S. (2008). The positives of negative emotions: Willingness to express negative emotions promotes relationships. *Personality and Social Psychology Bulletin*, 34(3), 394–406.
- Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. In D. K. Snyder, J. Simpson & J. N. Hughes (Eds.), *Emotion Regulation in Couples and Families: Pathways to Dysfunction and Health*, 13–35, Washington, DC: American Psychological Association.
- Hadert, A. & Rodham, K. (2008). The invisible reality of arthritis: A qualitative analysis of an online message board. *Musculoskeletal Care*, 6(3), 181–196.
- Hemsley, J. & Mason, R. M. (2013). Knowledge and knowledge management in the social media age. *Journal of Organ-*

- izational Computing and Electronic Commerce, 23(1-2), 138–167.
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G. & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, 18(1), 38–52.
- Hillis, K., Paasonen, S. & Petit, M. (2015). *Networked Affect*. Cambridge, MA: MIT Press.
- Hutter, K., Hautz, J., Dennhardt, S. & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: the case of MINI on Facebook. *The Journal of Product and Brand Management*, 22(5), 342–351.
- Jansen, B. J., Zhang, M., Sobel, K., & Chowdury, A. (2009). Twitter power: Tweets as electronic word of mouth. *Journal of the American Society for Information Science and Technology*, 60(11), 2169–2188.
- Jones, S. A., Aiken, K. D. & Boush, D. M. (2009). Integrating experience, advertising, and electronic word of mouth. *Journal of Internet Commerce*, 8, 246–267.
- Jouhki, J., Lauk, E., Penttinen, M., Sormanen, N. & Uskali, T. (2016). Facebook's emotional contagion experiment as a challenge to research ethics. *Media and Communication Research*, 4(4), 75–85.
- Koh, N. S., Hu, N. & Clemons, E. K. (2010). Do online reviews reflect a product's true perceived quality? An investigation of online movie reviews across cultures. *Electronic Commerce Research and Applications*, 9, 374–385.
- Kramer, A. D. I., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of the United States of America*, 111(4), 8788–8790.
- Laghi, F., Schneider, B. H., Vitoroulis, I., Coplan, R. J., Baiocco,

- R., Amichai-Hamburger, Y., Hudek, N., Koszycki, D., Miller, S. & Flament, M. (2013). Knowing when not to use the Internet: Shyness and adolescents' on-line and off-line interactions with friends. *Computers in Human Behavior*, 29(1), 51–57.
- Lapidot-Lefler, N. & Barak, A. (2012). Effects of anonymity, invisibility, and lack of eye-contact on toxic online disinhibition. *Computers in Human Behavior*, 28(2), 434–443.
- Laros, F. J. M. & Steenkamp, J-B. E. M. (2005). Emotions in consumer behavior: a hierarchical approach. *Journal of Business Research*, 58, 1437–1445.
- Lauk, E. & Sormanen, N. (2016). Issues of ethics and methods in studying social media. *Media and Communication*, 4(4), 63–65.
- Lee, S., & Cude, B. J. (2012). Consumer complaint channel choice in online and off-line purchases. *International Journal of Consumer Studies*, 36, 90–96.
- Lee, D., Kim, H., & Kim, J. K. (2012). The role of self-construal in consumers' electronic word of mouth (eWOM) in social networking sites: A social cognitive approach. *Computers in Human Behavior*, 28(3), 1054–1062.
- Leung, L. (2013). Generational differences in content generation in social media: The roles of the gratifications sought and of narcissism. *Computers in Human Behavior*, 29(3), 997–1006.
- Li, C. & Bernoff, J. (2011). *Groundswell – winning in a world of transformed by social technologies*. Harvard: Harvard Business Review Press.
- Lin, H., Tov, W. & Qiu, L. (2014). Emotional disclosure on social networking sites: The role of network structure and psychological needs. *Computers in Human Behavior*, 41, 342–350.
- Litvin, S. W., Goldsmith, R. E. & Pana, B. (2008). Electronic word-of-mouth in hospitality and tourism management. *Tourism Management*, 29, 458–468.

- Martin, R. C., Coyier, K. R., van Sistine, L. M. & Schroeder, K. L. (2013). Anger on the Internet: The perceived value of rant-sites. *CyberPsychology, Behavior & Social Networking*, 16(2), 119–122.
- Martinez, L. F. & Zeelenberg, M. (2015). Disappointment makes you more trusting. *Harvard Business Review*, 93(10), 36–37.
- Nitzburg, G. C. & Farber, B. A. (2013). Putting up emotional (Facebook) walls? Attachment status and emerging adults' experiences of social networking sites. *Journal of Clinical Psychology*, 69(11), 1183–1190.
- Noble, C. H., Noble, S. M. & Adjei, M. T. (2012). Let them talk! Managing primary and extended online brand communities for success. *Business Horizons*, 55, 475–483.
- Östman, S. & Turtiainen, R. (2016). From research ethics to re-searching ethics in an online specific context. *Media and Communication*, 4(4), 66–74.
- Papacharissi, Z. (2011). *A Networked Self: Identity, Community, and Culture on Social Network*. New York, NY: Routledge.
- Papacharissi, Z. (2015). *Affective Publics: Sentiment, Technology, and Politics*. New York, NY: Oxford University Press.
- Papacharissi, Z. (2016). Affective publics and structures of storytelling: sentiment, events and mediality. *Information, Communication and Society*, 19(3), 307–324.
- Parra-López, F., Bulchand-Gidumal, J., Gutiérrez-Tano, D. & Díaz-Armas, R. (2011). Intentions to use social media in organizing and taking vacation trips. *Computers in Human Behavior*, 27(2), 640–654.
- Pfeil, U., Arjan, R. & Zaphiris, P. (2009). Age differences in online social networking – A study of user profiles and the social capital divide among teenagers and older users in MySpace. *Computers in Human Behavior*, 25(3), 643–654.
- Przybylski, A. K., Murayama, K., DeHaan, C. R. & Gladwell, V.

- (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848.
- Rapp, A., Beitelspacher, L. S., Grewal, D. & Hughes, D. E. (2013). Understanding social media effects across seller, retailer, and consumer interactions. *Academy of Marketing Science Journal*, 41(5), 547–566.
- Ratto, M. & Boler, M. (2014). *DIY Citizenship: Critical Making and Social Media*. Cambridge, MA: MIT Press.
- Robertson, S. P., Douglas, S., Maruyama, M. & Semaan, B. (2013). Political discourse on social networking sites: Sentiment, in-group/out-group orientation and rationality. *Information Polity: The International Journal of Government & Democracy in the Information Age*, 18(2), 107–126.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39(6), 1161–1178.
- Sheldon, K. M., Abd, N., & Hinsch, C. (2011). A two-process view of Facebook use and relatedness needs-satisfaction: Disconnection drives use, and connection rewards it. *Journal of Personality and Social Psychology*, 100(4), 766–775.
- Shen, A.X.L., Lee, M. K. O., Cheung, C. M. G. & Chen, H. (2010). Gender differences in intentional social action: we-intention to engage in social network-facilitated team collaboration. *Journal of Information Technology*, 25(2), 152–169.
- Schweitzer, F. & Garcia, D. (2010). An agent-based model of collective emotions in online communities. *European Physical Journal B -- Condensed Matter*, 77(4), 533–545.
- Sobkowicz, P. & Sobkowicz, A. (2012). Properties of social network in an internet political discussion forum, *Advances in Complex Systems*, 15(6), 1–12.
- Sumiala, J., Tikka, M., Huhtamäki, J. & Valaskivi, K. (2016). #JeSuisCharlie: Towards a multi-method study on

- hybrid media events. *Media and Communication*, 4(4), 97–108.
- Thøgersen, J., Juhl, J. J., & Poulsen, C. S. (2009). Complaining: A function of attitude, personality, and situation. *Psychology & Marketing*, 26(8), 760–777.
- Tripp, T.M. & Grégoire, Y. (2011). When Unhappy Customers Strike Back on the Internet. *MIT Sloan Management Review*, 52(3), 37–44.
- Verhagen, T., Nauta, A. & Feldberg, F. (2013). Negative online word-of-mouth: Behavioral indicator or emotional release? *Computers in Human Behavior*, 29(4), 1430–1440.
- Yun, G. W. & Park, S.-Y. (2011). Selective posting: Willingness to post a message online. *Journal of Computer-Mediated Communication*, 16, 201–277.
- Watts, D. & Dodds, P. (2007). Influentials, networks, and public opinion formation. *Journal of Consumer Research*, 34(4), 441–458.
- Zaugg, A. & Jäggi, N. (2006). The impact of customer loyalty on complaining behaviour. In P. Isaís, M. B. Nunes, & I. J. Martínez, (Eds.), *IADIS International Conference WWW/Internet*, 119–123, Murcia, Spain.